

Capstone Industry Council Meeting

January 10, 2007

Capstone Phase III
Industry Council Meeting



Federal Aviation
Administration

Capstone



Agenda

➤ **0800-0945 Information Sharing**

- | | |
|------------------------------|---------------|
| – Opening | Sue Gardner |
| – Operations Status Update | Ray Collins |
| – Technical Status Update | Mark Olson |
| – Safety Study Report Update | UAA |
| – RNP / RNAV Route Status | Sue Gardner |
| – Navigation Services Update | JoAnn Ford |
| – JRC Update | Howard Swancy |

➤ **0945-1000 Industry Feedback (Roundtable)**

Opening

Sue Gardner

Operations Status Update

Ray Collins

Juneau Displays

Status: 1/8/07

- In use by tower controllers September 29, 2006
 - S/A application

- AFSS Displays – January 30 estimate
 - All necessary hardware for redundancy on hand
 - New lines procured & testing being scheduled

Chelton 6.0B Software Upgrade

Status: 1/8/07

- August 28:
 - 6.0B System Requirements Document: Complete
 - 6.0B Software Planning Documents: Complete
- September 15
 - 6.0B Software Requirements Document: Complete.
 - Generate SPRs for changes.
 - System Requirements Document, Software Requirements Document, prototype source code and accepted SPRs send to ENEA to generate Software Design Document
 - **SOI #1: Complete for DO-178B Cert of 6.0B**
- Dec '06 slipped to Jan '07
 - Finish Software Design Process
 - SOI #2
- April 15 slipped to June '07
 - SOI #3,4 & Software Release

- **FAA Industry Training Standard (FITS) - Pilot**
 - Seminar Completed @ UAA September 30
 - Curriculum submitted to AFS 800 September 2006 / accepted Dec 2006
 - Beta class in progress (flight portion)
 - ANC FSDO reviewing for UAA

- **FITS 'Like' Maintenance Training**
 - In development
 - Beta class March '07

- **National Center for Aircraft Technician Training (NCATT)**
 - Curriculum developed – NCATT & UAA currently fine tuning

Capstone Maintenance Training

Training Covered

Chelton IDU, AHRS, AIU, F/ADS, GPS, programming & updating
Garmin GNS480, MX20, GSL71, GDL90, programming & updating

- Ketchikan: October 3 – 5 (complete)
 - ProMech, Pacific Airways, Taquan, Venture Travel
Pirate Air Works, Harris Air (Sitka)
- Juneau: October 17 – 19 (complete)
- Sitka: *November 15 (complete)*
- Cordova: Flooded – date TBD based on
availability of personnel (estimate end of Jan '07)

Finish HELOS Juneau

Status: 1/8/07

Twelve Remaining 'left over' Helicopters

- 10 Complete
- 2 left – Feb & May
- 1 Equip to Mfrg for 'new' NorthStar helo – install in progress

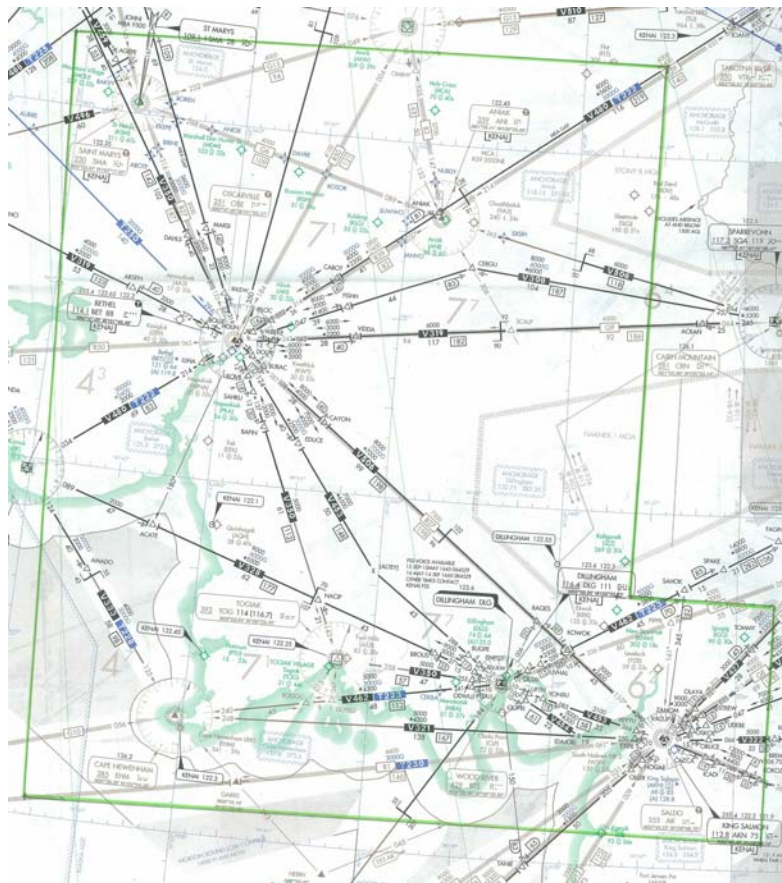
Capstone Technical Status Update

Mark Olson

Status of Services–Southwest AK (as of 9 Jan 07)

Phase I: Y-K Delta	ADS-B Surveillance	FIS-B	VOLPE/ Flight Explorer
Bethel			
Aniak			
St. Mary's			
Dillingham			
King Salmon			
Unalakleet			
Sparrevohn			
Tatalina			
Cape Romanzof			
Cape Newenham			
Site Summit			
	In Service		
	TBD		
	Planned Service		
	Out of Service		

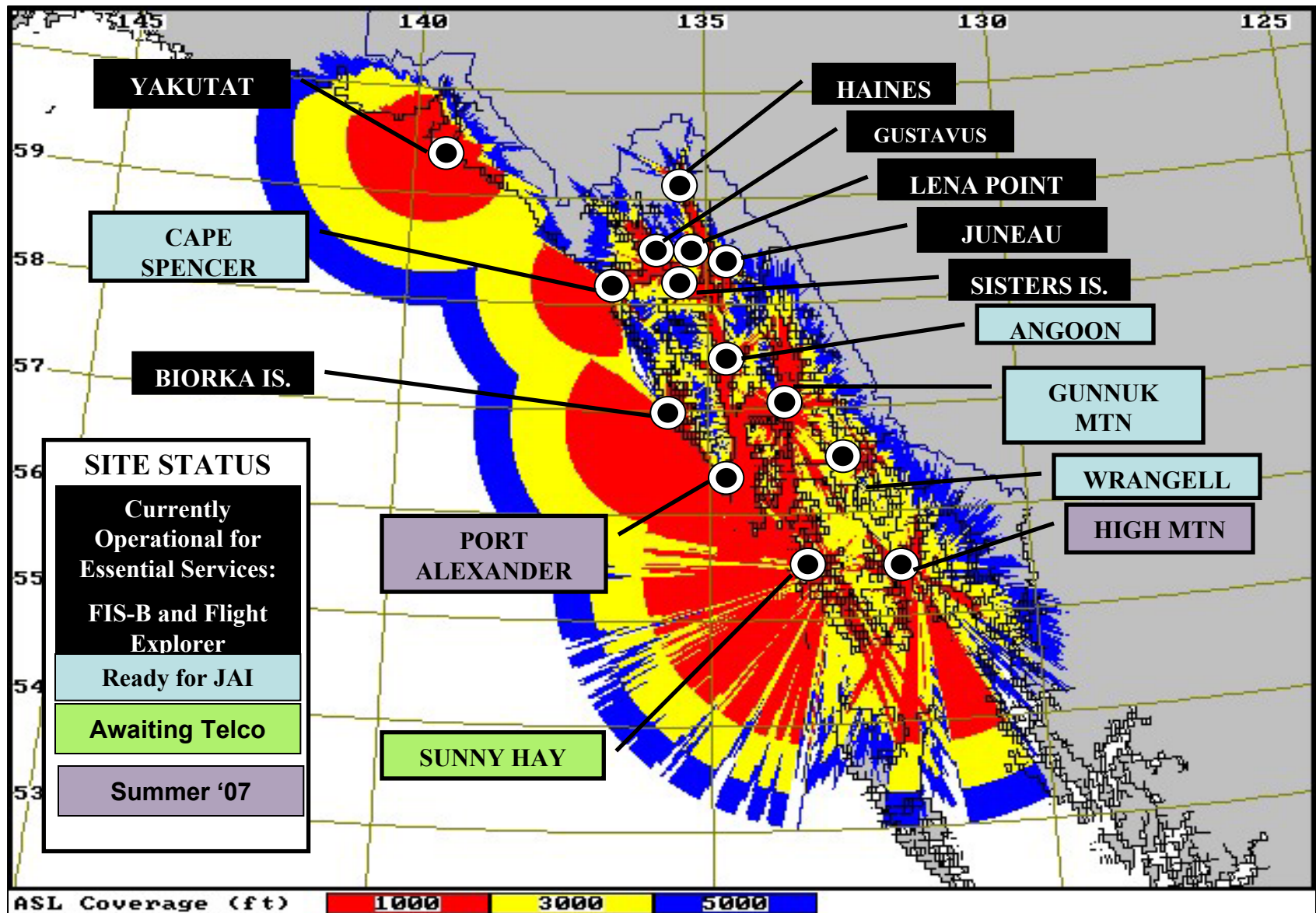
GBT Coverage Box – Southwest AK



Status of Services-Southeast Alaska (as of 9 Jan 07)

Phase II: Southeast	ADS-B Surveillance	FIS-B	VOLPE/ Flight Explorer
Juneau			
Yakutat			
Sisters Island			
Gustavus			
Lena Point			
Biorka			
Haines			
Wrangel			
Angoon			
Gunnuk			
Sunny Hay			
Cape Spencer			
High Mountain			
Port Alexander			
	In Service		
	TBD		
	Planned Service		
	Out of Service		

GBT Coverage - Southeast AK (as of 9 Jan 07)



Ongoing Activities

- Operator Fleet Monitoring
 - New data feed bypassing interim test architecture at ZAN to be implemented on or about April 2007
 - Purpose is to increase reliability of OFMS data feed going to Flight Explorer

- Juneau Multilateration – status update

Status Update on Safety Study Reports

UAA Aviation Technology Division
for the Capstone Industry Council

1/10/2007

Overview and FY07 Activities

- “Safety Study” reports on the progress and impacts of Capstone have been developed jointly by UAA and MITRE from 2002 through the present
- UAA and MITRE deliver updated plans for local data collection to the FAA this month
- Content-split between reports will be different for FY07
 - Phase I - No longer a separate report
 - Phase II - Similar to previous two years
 - Statewide - New report
 - Updates on Part -135 in the Phase I area
 - Baseline operations and accidents for new areas and Part-91
 - FAA plans for Services *and* Coalition plans for Equipage
 - Progress To-Date

Local Data Collection Now Underway

- Pilot interviews completed and being analyzed for
 - 25 pilots (Phase I area Air Carriers)
 - 63 pilots (Phase II area Air Carriers)
- Management interviews (Phases I & II)
 - Interviews will be complete next month
- Charter-only aircraft utilization (Phase II)
 - Data collection will be complete next month

Local Data Collection Plans (Preliminary)

- Statewide will include Part-135 and Part-121 as in previous reports
 - Management and pilot interview instruments based those refined through Phase I and Phase II
 - Charter-only operations data collection similar to Phase II
- Statewide will include Part-91 for the first time
 - Design of Part-91 survey instruments is in progress and will be completed this month
 - UAA will propose the Coalition require owner data agreements as a prerequisite for financial assistance. Past and once-per-year data on operations, avionics usage, and training.

RNP / RNAV Route Status

Sue Gardner

PBN Meeting on November 29th

- Purpose
 - To organize a cross-cutting initiative to develop Performance Based Navigation (PBN) routes in Alaska and kick off efforts to begin implementation of these routes by the end of 2009
- Lines of business participating:
 - ARC- Alaska Region, represented by Sue Gardner, Capstone Program Manager
 - AVS- represented by Les Smith
 - ATO-R – represented by Jeff Williams & Jim Arrighi
 - ATO-W – represented by JoAnn Ford
 - ATO-E – represented by Robert Novia and John Lane (ZAN)
 - ATO-T – represented by Ken Bassard
- ARC (Capstone) was charged with developing a charter for the work
 - ATO-E was tasked with development and management of an integrated schedule and plan (by 6-15-07) to operationally enable a PBN route structure in Alaska to begin implementation by September 30, 2009
 - Other organizations were designated to support
- Next meeting is planned for January 11, 2007

Flight Plan Establishes Safety Goals



OUR VISION

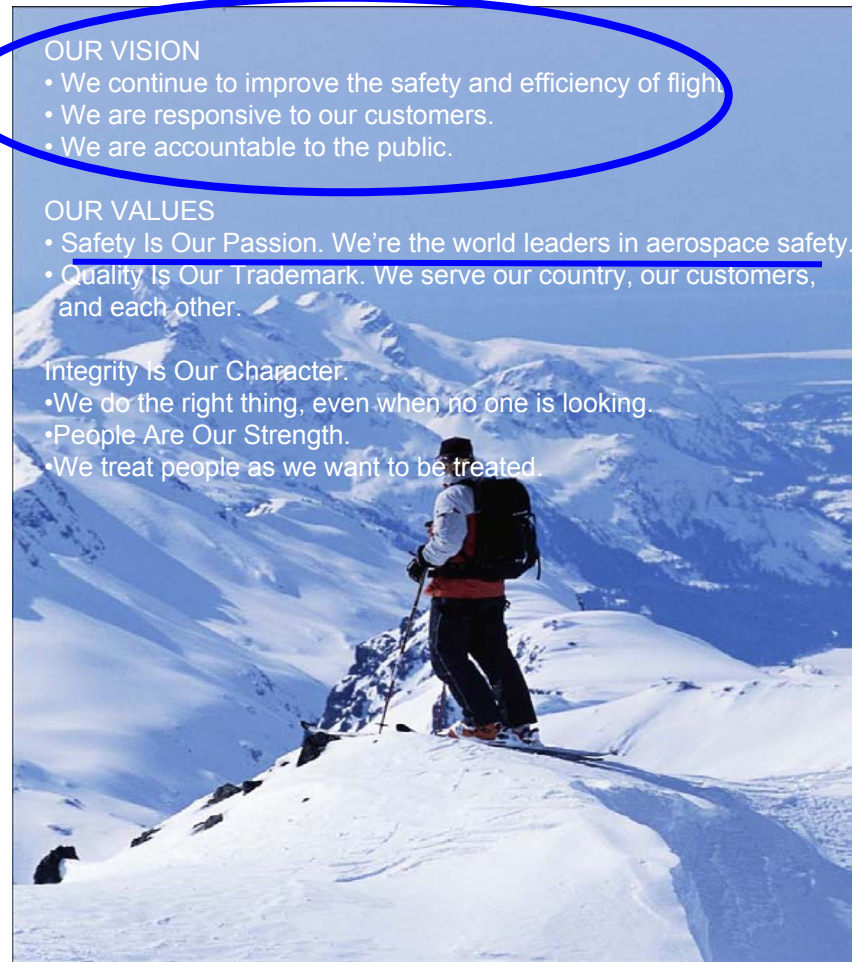
- We continue to improve the safety and efficiency of flight.
- We are responsive to our customers.
- We are accountable to the public.

OUR VALUES

- Safety Is Our Passion. We're the world leaders in aerospace safety.
- Quality Is Our Trademark. We serve our country, our customers, and each other.

Integrity Is Our Character.

- We do the right thing, even when no one is looking.
- People Are Our Strength.
- We treat people as we want to be treated.



Flight Plan Objectives and Strategies

CHARTING THE PATH TO TOMORROW

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Flight Plan sets the course for the future

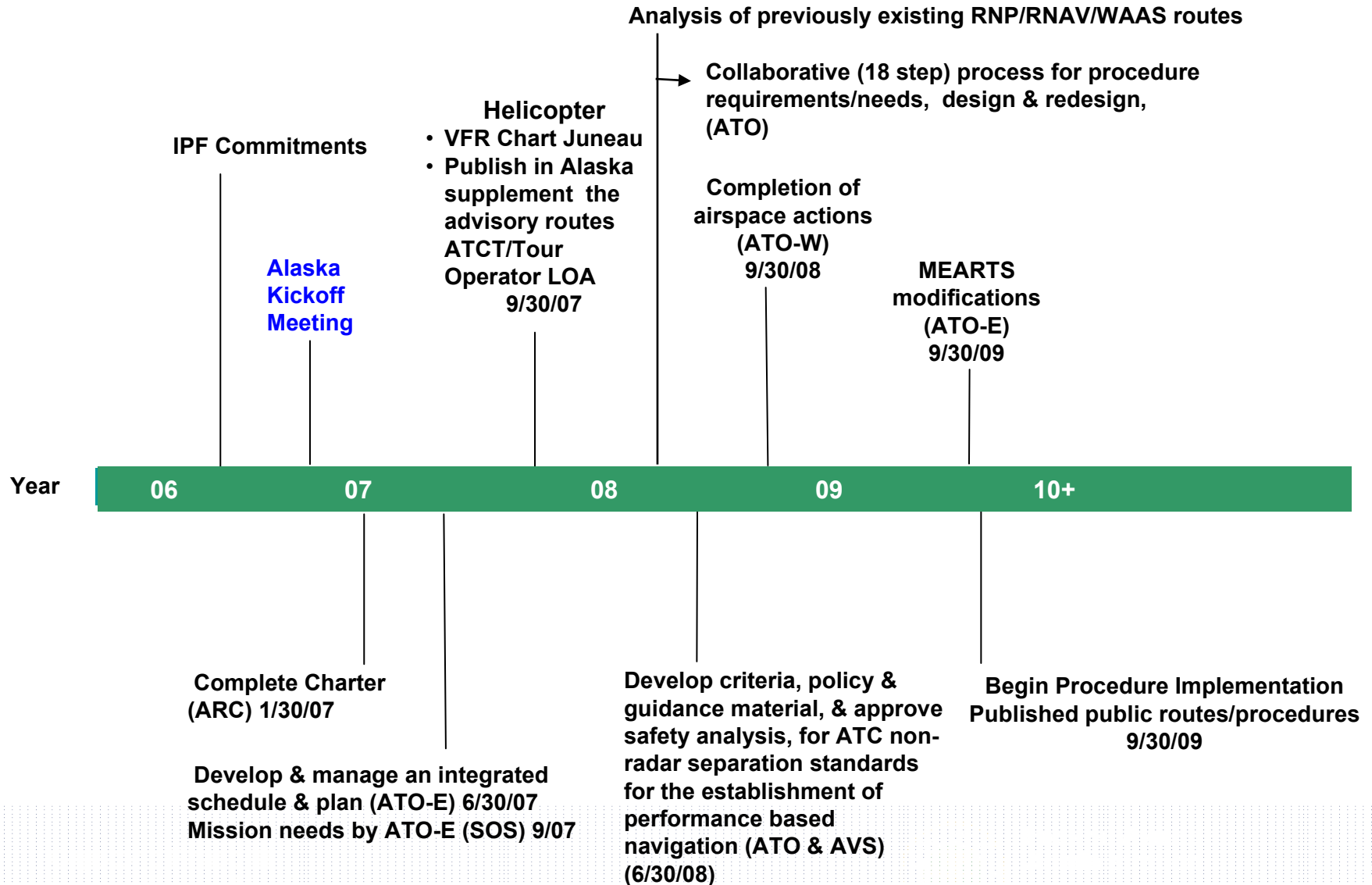
Supports NextGen

Goals to continuously improve safety Performance Based Navigation (RNAV/RNP/WAAS)

IS and Global Harmonization Implement air navigation improvement programs in Alaska

By 2009 implement an Alaska statewide public RNAV/RNP/WAAS enable route structure

Alaska Performance-Based Operations Timeline



Navigation Services Update

JoAnn Ford

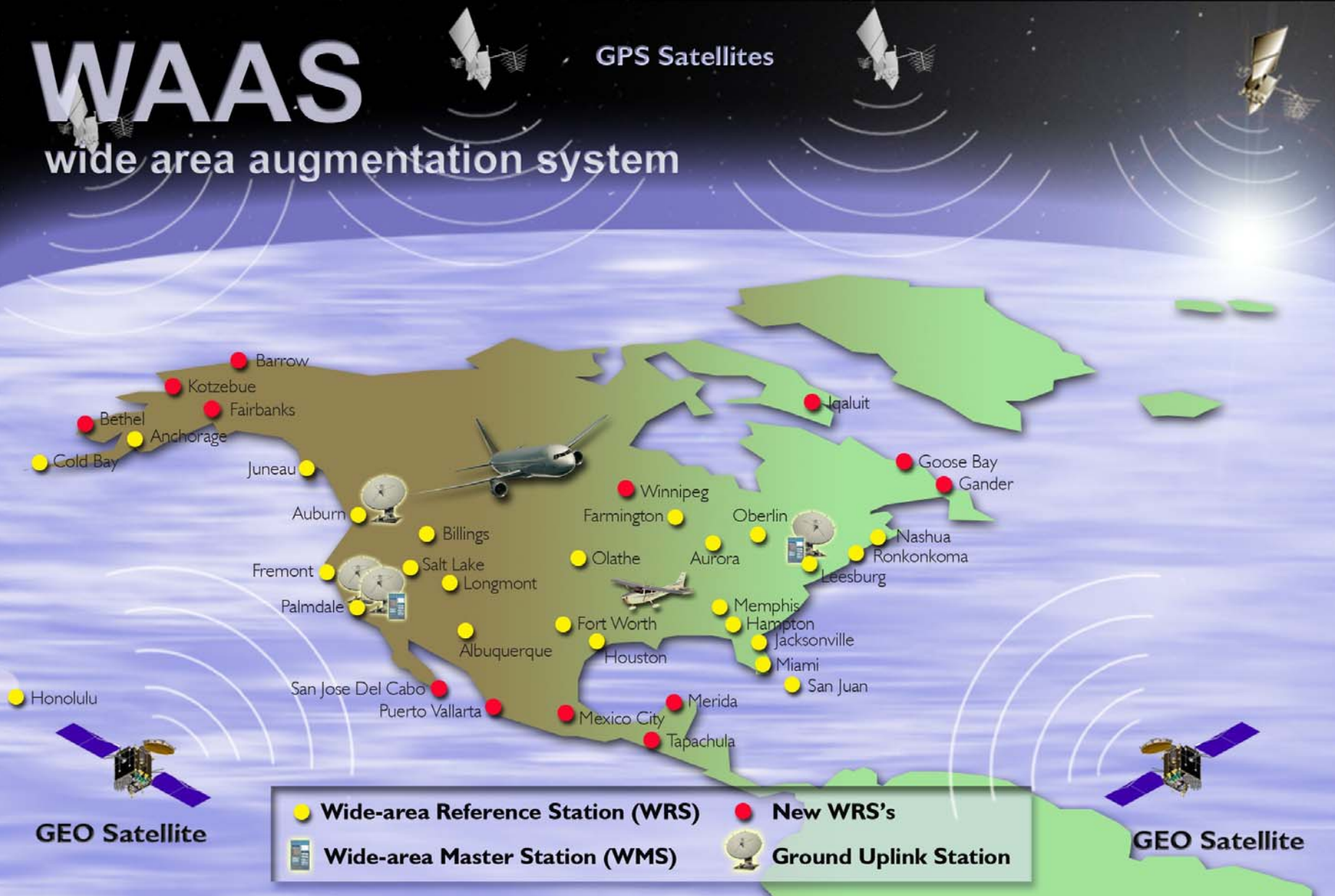
Vertical Flight Initiatives

- 2006 HAI TOPS request for published VFR routes in Juneau area for Juneau Tour Operators
 - Publish VFR advisory routes in Alaska Supplement (will be completed in next publishing cycle)
 - Investigate the plausibility of VFR Helicopter Chart for Juneau area
- Administrator's Vertical Flight Committee

WAAS

wide area augmentation system

GPS Satellites



WAAS Schedule

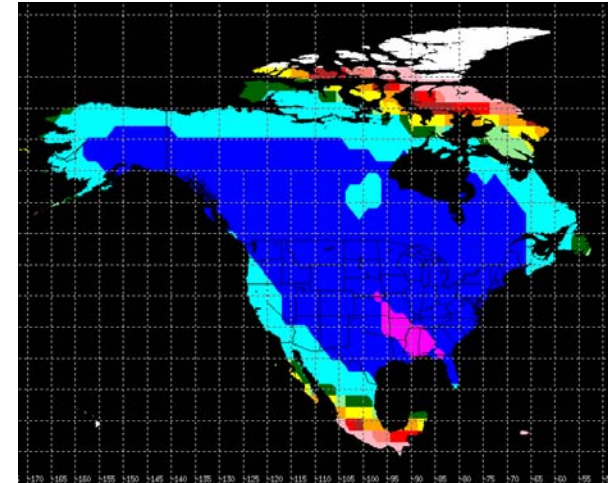
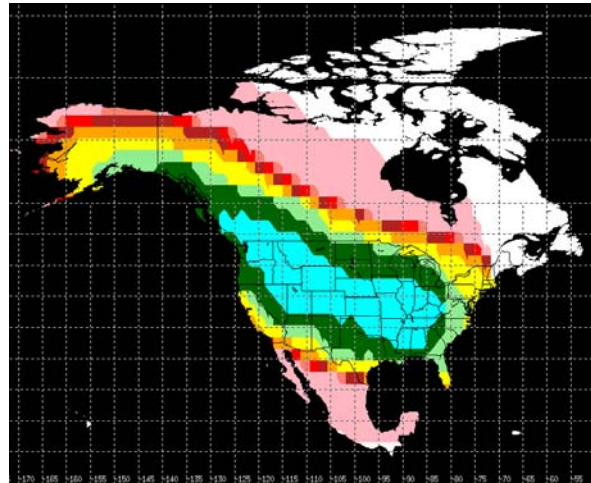
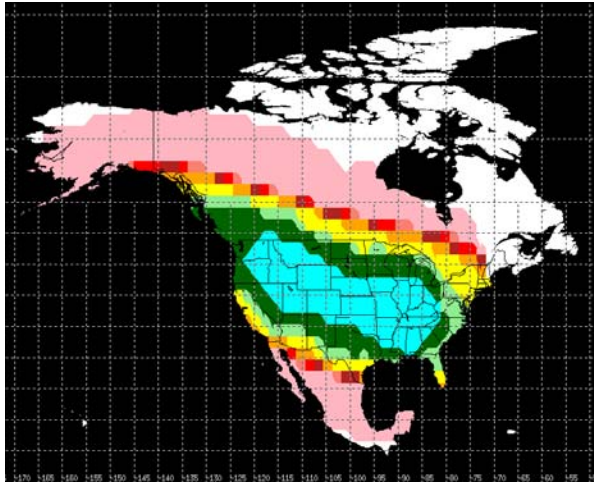
- Improvements to obtain full LPV performance
 - Four new WRS operational August 4, 2006 for a total of 7 in the state
 - Alaska - Four new sites installed October 2004 (Barrow, Bethel, Fairbanks and Kotzebue)
 - Canada – 4 sites on track for going operational 2007
 - Mexico – 5 sites on track for going operational 2007
 - Replace GEO communication links
 - Launched in September and October
 - Operational 2nd Quarter FY07
 - Software integrity improvements to be introduced in 2007 and 2008, resulting in greater availability of service

Predicted WAAS LPV Availability Gains

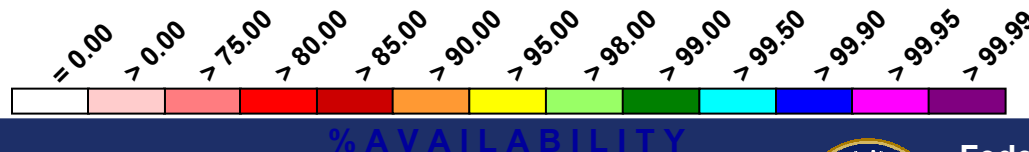
Commissioning - 2003

August - 2006

December 2008

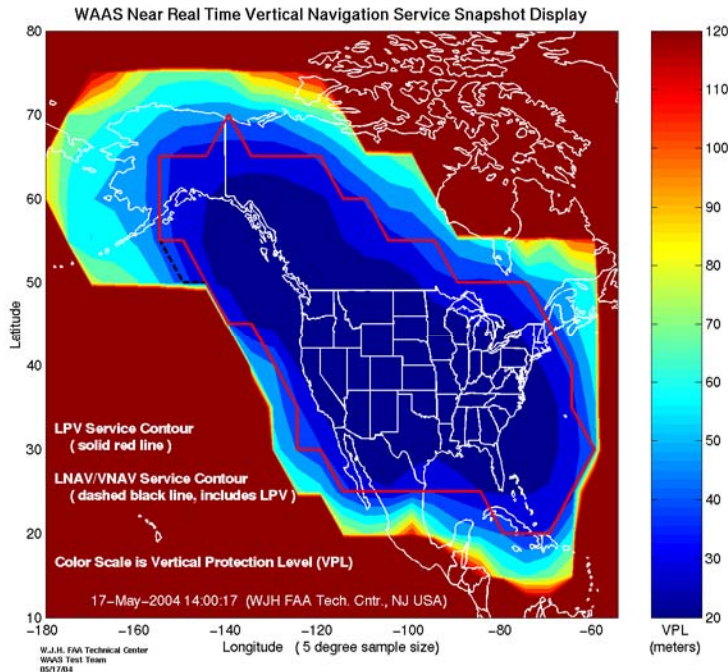


- Availability predictions performed by Mitre
 - Assumptions in this analysis are of a conservative nature, and can not completely predict actual or observed performance
- LPV availability in Alaska from commissioning to present was less than 75% with the exception of the lower southeastern portion of the state
- LPV availability increased to 95% in the central portion of the state once the Alaskan sites were operational August 2006
- Alaskan availability will increase incrementally as the Canadian sites are brought online and software enhancements are made, providing 99 - 99.5% coverage to the entire state by Dec 2008

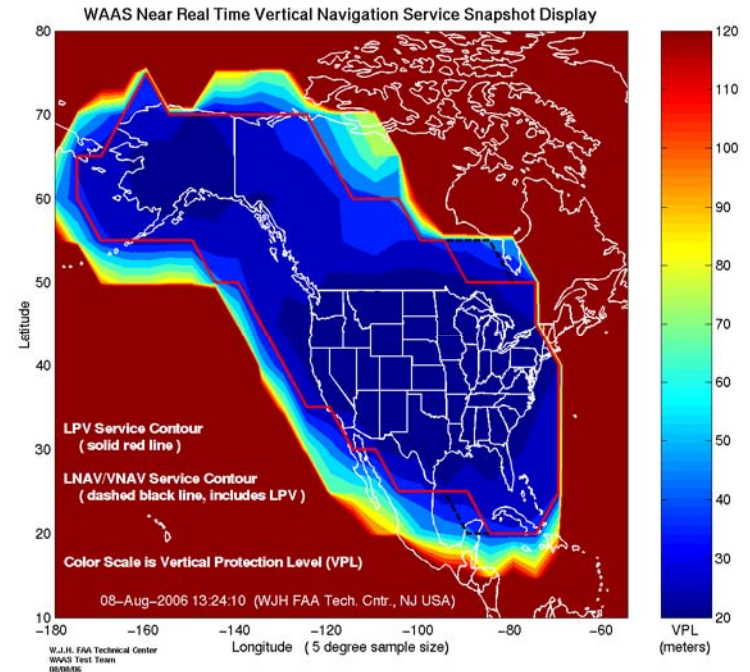


WAAS Performance Comparison

May 14, 2004



August 8, 2006



- FAA Technical Center continuously monitors WAAS performance
- Red line indicates current LPV coverage (50m VAL)
- These pictures depict availability at a given instant and do not depict expected availability over time

WAAS LPV Status

- Alaskan Airports VFR – IFR Improvements
 - Dec 2006 Alaska RAPT approved list of 22 airports for surveys
TBC NLT Sept 2007 (resulted in substitution of two airports from the original list due to FAA & AK Airports Divisions rec.) (list next slide)
 - Awaiting letters/documents from Alaska DOT ref approval of original 9 airports
 - FAA Airports Div scheduling addtnl LPV surveys, to be funded thru AIP:
 - Galena (GAL) Rwy 7 & 25
 - Illiamna (ILI) RWY 17 & 35
 - King Salmon (AKN) RWY 29
 - Point Hope (PHO) RWY 19

WAAS LPV Status (cont)

- List of 22 Airports
 - Birchwood, Brevig Mission, Central, Chuathbaluk, Clarks Point, Eagle, Elim, Healy River, Hughes, Kasigluk, Koyukok, Kwethluk, Larsen Bay, Napakiak, Pilot Station, Port Lions, Quinhagak, Robert/Bob/Curtis/Noorvik, Shageluk, Shaktoolik, South Naknek NR 2, White Mountain
 - Procedures will be developed only after thorough coordination is completed

WAAS LPV Status (cont)

- Surveys submitted to FAA thru 3rd party survey program
 - 3rd party survey providers to the FAA TPSS (ATO-R, AJW-32) web site:
 - PROSPECT CREEK (PPC) - ANAPC on 18/36 (submitted by R&M)
 - GALBRAITH LAKE (GBH) - ANAPC on 12/30 (submitted by R&M)
 - ALLAKAKET (6A8) - ANAPC on 5/23 (submitted by R&M)
 - NIKOLSKI AS (IKO) - ANAPC on 8/26 (submitted by WOOLPERT, INC)
 - RED DOG (DGG) - RUNWAY SURVEY - NO OBSTRUCTIONS (submitted by TUCK)
 - RUBY (RBY) - ANAPC on 3/21 (submitted by R&M)

WAAS LPV Status (cont)

- 3 LPV at Anchorage
 - Rwy 7L, 7R, 14
 - NOTAM'd out awaiting flight check Jan 29
- Addtnl Flight Check Jan 29: Homer, Emmonak, St. Michaels

JRC Update

Howard Swancy